

REMARKS

In the last Office Action, it was indicated that texts were missing as a result of holes on the top page (particularly in the claims). Accordingly, a copy of present application, with all the text visible, is enclosed.

The claims of the application were rejected on the basis of U.S. 5,712,866 (Stein et al.). Reconsideration is requested. It is believed that the reasons why the claims of the present invention clearly distinguish over the Stein patent will be better explained by first reviewing the mode of operation in the Stein patent and then the operation in the present invention, followed by a discussion of the claims.

With reference first to the Stein et al. patent, possibly the clearest presentation of this is given in Figs. 4 and 5. In Fig. 4, there is the input device 8 which is a microphone that converts an analog input signal into an analog electric signal 10 (column 2, line 31). Then, the analog electric signal is directed to the digital encoder 16. In column 2, line 34 and following, is indicated that the digital encoder 16 in Stein preferably a Continuously Variable Slope Delta encoder which provides a continuous output bit stream. Thus, this is CVSD modulator. Then the digital signal 18 that is emitted from the modulator 16 goes through various components 20, 24, 28 and 32, and the output from the spread spectrum system 32 is

directed through the line 34 to the modulator 40. In column 3, in the first full paragraph, it is stated that the modulator 40 produces a radio frequency signal 42 which is broadcast via the integral antenna 48.

The signal from the antenna 48 travels to the antenna 100 (see Fig. 5) and goes through a radio frequency downconverter 102, the output of which goes through a number of other components, 104, 106, 108, 110, 112, and 114 to a component 16 titled "Digital To Analog Encoder". This is apparently a clerical error and it should read "Digital to Analog Decoder". This is discussed in column 5, beginning on about line 59 of Stein. It is evident that this should be designated a decoder. Also, since the encoder 16 is a DVSD modulator, there would have to be a corresponding DVSD component 116 which would be a demodulator. It states that the analog signal 117 is applied to the output device 108, which presumably would produce an audible sound. To summarize certain aspects of the Stein et al. patent, the DVSD digital encoder 16 is used in a conventional manner, and the DVSD decoder 116 is also used in a conventional manner. What happens in the Stein et al. patent is that between the DVSD digital encoder 16 and the DVSD analog decoder 116 there are various occurrences which enhance its ability to be used for remote covert surveillance.

With that description of the functioning of the Stein et al. apparatus being completed, reference is now made to Fig. 1 of the present patent application. In Fig. 1, there is the serial data input 3 which is digital, and which passed through the microprocessor 10 which manipulates the signal. The signal from the microprocessor 10 is a serial digital signal that goes to the CVSD demodulator (emphasis added). The signal from the CVSD demodulator 19 passes through a band pass filter 21 whose output is fed to the variable gain unit 23, the output of which goes through the DC blocking capacitor 24 to the analog input 26 of the radio transmitter 27.

Then the signal that is received by the antenna 30 passes to the radio receiver 31 which demodulates the RF carrier to the desired frequency, the output of which is directed through the DC blocking capacitor 33 to the variable gain unit 35, the output 37 of which is then presented to the band pass filter 36, the output of which is then fed to the CVSD modulator 39.

The benefits of this arrangement are substantial, and rather than repeat these in detail in this text, the examiner is invited to read the first three pages of the present patent application, giving the background, the problems in the prior art, and how the present invention uniquely improves over these. Attention is called particularly to the lower part of page 2, beginning on line 46 and on through most of page 3.

Let us now turn our attention to claim 1. It is indicated that this is a system to encode and decode discrete data into and from analog wave forms.

Paragraph (a) of claim recites as a first component the first micro controller to receive the digital data stream and manipulating it in certain ways described in paragraph (a). These particular manipulations are not disclosed or suggested in any way in the prior art references cited. Then in paragraph (b) of claim 1 this data is received first by the Continuously Variable Slope Delta modulator (CVSD) to receive the manipulated data stream from the first micro controller 10 and convert that into an analog signal.

It is important to note at this point that the data stream is first fed to the demodulator. The conventional wisdom in using modulators and demodulators, in particular CVSD's as modulators and demodulators, is that the analog signal first goes to the CVSD modulator (which, as its name suggests, modulates the signal) and then to the demodulator. The opposite is done in the present invention. This is not an inconsequential and arbitrary step. Rather, it yields any number of advantages which are discussed in the earlier part of the text of the application.

Then paragraph (c) recites Continuously Variable Slope Data modulator (CVSD) (emphasis added) arranged to receive the analog output from the CVSD demodulator and to output a digital data stream. Again, the roles of the two CVSD's are reversed in that the digital input first goes to the demodulator, and then to the modulator.

Then in paragraph (d) there is recited the second microprocessor arranged to receive the data stream from the CVSD modulator and then goes through various manipulation steps with the output being the initial digital data stream. This also is not shown in the prior art.

Claim 2 is a method claim which recites generally the similar subject matter as in Claim 1 but in the form of a method claim.

Claim 3 depends upon claim 1 and recites further limitations.

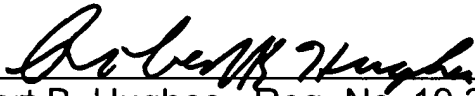
The applicant intends to file a supplemental response shortly, possibly adding some additional claims.

If there is any matter which could be expedited by consultation with the Applicant's attorney, such would be welcome. The Applicant's undersigned attorney can normally be reached at the telephone number set forth below.

Signed at Bellingham, County of Whatcom, State of Washington this July 06, 2004.

Respectfully submitted,

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